We claim:

1. A finned tube water heater, comprising:

a pair of flow manifolds, each having a water inlet and a water outlet and a plurality of connecting openings;

a plurality of circular flow tubes arranged in stacked fashion to form a tube bundle which surrounds an initially open interior space, each flow tube having a pair of opposing connecting ends which connect to selected connecting openings provided in a selected one of the flow manifolds;

a burner having a burner outlet which communicates with the interior space within the stacked tube bundle for producing products of combustion for heating water flowing in the flow tubes; and

wherein the flow tubes have external fins located on an exterior surface thereof, the external fins being crushed to form upper and lower flat stacking surfaces for stacking the tubes to form the tube bundle, the external fins also being crushed to form angled baffle surfaces about an external periphery of the tubes, the baffle surfaces serving to retain heat from the products of combustion of the burner which are released into the interior space within the stacked tube bundle.

2. The finned tube water heater of Claim 1, wherein the external fins which are crushed to form the angled baffle surfaces on each flow tube present a continuous exposed surface on the exterior of the tube bundle when the flow tubes are stacked in vertical fashion, the continuous exposed surface comprising an integral baffle surface for the tube bundle when the tubes are stacked with the flat stacking surfaces in contact, thereby eliminating the need for a separate baffle member to assist in retaining heat from the products of combustion in the interior space within the stacked tube bundle.

3. The finned tube water heater of Claim 1, wherein each finned flow tube is formed with a forming die which creates four facets on the exterior of each tube, two of the facets forming the stacking surfaces and two of the facets forming the baffle surface.

4. The finned tube water heater of Claim 1, wherein the connecting openings formed in the flow manifolds for receiving the connecting ends of the finned flow tubes are formed with a peripheral internal landing area which connects to an internal draw region.

5. The finned tube water heater of Claim 1, further comprising:

a pair of vertically arranged flow manifolds, each of the flow manifolds having connecting openings for receiving a connecting end of the finned flow tubes making up the tube bundle, the pair of vertically arranged flow manifolds having internal passageways for cross-communication between the flow manifolds, whereby water enters an inlet in a first manifold of the pair and circulates through an internal passageway and through a connected flow tube to the second manifold of the pair, the water then circulating through an internal passageway and through a second flow tube back to the first flow manifold, the circulation continuing through all of the flow tubes until the water exits the outlet of the first flow manifold.

6. The finned tube water heater of Claim 4, wherein at least one ring of filler metal is positioned about each flow tube connecting end, the ring of filler metal being received upon the internal landing area of the flow opening provided in the flow manifold for brazing the tubes to the flow manifold.

7. The finned tube water heater of claim 6, wherein each flow manifold has a pair of oppositely arranged closed ends, and wherein alternate water flow paths are created within the flow manifolds by means of a metal cap or disk brazed to an outer or inner surface of the tubular flow manifold to form dividers for the water flow.

8. The finned tube water heater of Claim 5, wherein the flow manifolds, connecting tubes, dividers and end caps are brazed in an furnace as a unit in a one step brazing operation.

9. The finned tube water heater of Claim 8, wherein the tube bundle is brazed in a furnace in an oxygen starved atmosphere at a temperature in the range of about 1400°F.

10. The finned tube water heater of Claim 1, wherein the tube bundle is sandwiched between a base pan and a bulkhead each of which is provided with an insulating refractory disk for insulating the tube bundle, the base pan and the bulkhead being joined by a plurality of connecting rods which hold the tube bundle, base pan and bulkhead in tension.

11. The finned tube water heater of Claim 10, further comprising:

a one-piece jacket which circumscribes the tube bundle, base pan and bulkhead and which seals against the peripheral surfaces of the base pan and the bulkhead to thereby create a flue space when installed about the tube bundle, the flue space receiving products of combustion produced by the burner, the jacket also having a flue outlet opening for exhausting products of combustion.

12. The finned tube water heater of Claim 11, wherein the one-piece jacket is held in place by a mechanical clasp, thereby facilitating factory assembly and also facilitating removal to expose the tube bundle for maintenance operations by opening the mechanical clasp.

13. The finned tube water heater of Claim 12, wherein a pair of runners extend beneath the bottom pan to support the bottom pan, the runners each having an exposed length which also serves to support the one-piece jacket as the jacket is being installed about the tube bundle.

14. The finned tube water heater of Claim 10, further comprising:

a blower/mixing box mounted on an upper surface of the bulkhead, the burner being sandwiched between the blower/mixing box and the bulkhead, the blower/mixing box containing an internal scroll and orifice member which together form a venturi passage, the internal scroll having side tabs which are received within mating holes provided in opposing sides of the blower/mixing box, alignment of the tabs and holes serving to provide the desired shape for the scroll within the blower/mixing box.

15. The finned tube water heater of Claim 14, wherein the burner has a generally cylindrical exterior and a conically tapered interior and is formed at least in part of a woven metal fabric.

16. The finned tube water heater of Claim 15, wherein the blower/mixing box has an air inlet which is fitted with an inlet air damper, the damper having an internal butterfly member which is angularly positionable to control the flow of air through the assembly, the butterfly being movable between an open position for high fire conditions and a closed position for low fire conditions of the water heater, whereby the damper serves as a staging mechanism for the water heater.

17. The finned tube water heater of Claim 10, wherein a flow control switch is located within a selected one of the vertically arranged manifolds in-line with the flow path of water through the flow manifold.

18. The finned tube water heater of Claim 10, wherein an electrical control box with opposing sidewalls is mounted on the bulkhead, wherein the one-piece jacket is provided with a control panel opening, and wherein a control panel is mounted within the opening, the control panel having a pair of opposing tabs at an upper end thereof which are received within mating T-slots provided in the opposing side walls of the electrical control box, whereby the control panel is positionable in a lowered position and an upwardly raised position which provides access to electrical connections located within the electrical control box.

19. The finned tube water heater of Claim 18, wherein a transparent cover panel fits over the control panel within the control panel opening, the transparent cover panel being formed of a flexible plastic

which allows the panel to be secured within the control panel opening by flexing the sides of plastic material.